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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,392	01/14/2004	Hiroaki Matsumoto	02410287US	1887
7055	7590	06/08/2006	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			WILLIAMS, THOMAS J	
			ART UNIT	PAPER NUMBER
			3683	

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/756,392

Applicant(s)

MATSUMOTO, HIROAKI

Examiner

Thomas J. Williams

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/31/06; 4/13/06</u> | 6) <input type="checkbox"/> Other: _____  |

### 3DETAILED ACTION

1. Acknowledgement is made in the receipt of the amendment filed March 31, 2006, the information disclosure statements filed March 31, 2006 and April 16, 2006 and the declaration filed March 31, 2006.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 10, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,632,535 to Luckevich et al.

Re-claims 1 and 13, Luckevich et al. disclose a brake control apparatus, comprising: a brake pressure controlling unit (see figure 2); a control unit 62 performs brake force distribution control.

Luckevich et al. disclose a prior art situation (see column 5 lines 65-67 to column 6 lines 1-2) wherein the normally open valves for the rear wheels are opened (at which time the rear brake pressure is increased) and the distribution control is terminated after the vehicle speed has reached a low speed limit but before the vehicle has come to a complete stop, this increase in rear brake pressure is anticipated to result in a release of a frontward force applied to the vehicle. As best understood by the examiner this is consistent with the applicant's description of instant figure 2, wherein after the vehicle speed falls below  $V_0$  a frontward force is released, due to an increase in rear brake pressure, see section 10 lines 3-7 in the declaration filed March 31, 2006.

Art Unit: 3683

Therefore, as best understood by the examiner the control unit finishes the brake force distribution control as a vehicle stops and after a frontward force applied to the vehicle is released and prior to a stop of the vehicle.

Re-claims 2 and 3, the brake force distribution is terminated after the vehicle or wheel speed reaches a low limit.

Re-claim 10, see figure 2.

Re-claim 11, Luckevich et al. disclose as the present invention a termination of brake force distribution after the vehicle stops.

4. Claims 1, 4, 5, 10, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,938,299 to Hara et al.

Re-claims 1, 11 and 13, Hara et al. discloses a brake control apparatus, comprising: a brake pressure controlling unit (see figure 2); a control unit 60 performs brake force distribution control, brake force distribution is terminated when the vehicle speed or wheel speed falls below a low speed (see step 4, column 7 lines 50-53, this is similar to the situation described in section 10 of the declaration). As such the frontward force applied to the vehicle is anticipated to be released since the rear brake pressure is increased at a speed just below a predetermined value, such as 6 km/h. Therefore, as best understood by the examiner the control unit finishes the brake force distribution control as a vehicle stops and after a frontward force applied to the vehicle is released and prior to a stop of the vehicle.

Re-claims 4 and 5, the brake force distribution is terminated after an estimated deceleration is reduced to be smaller than a predetermined deceleration from when a wheel speed, or vehicle speed, is smaller than a predetermined value, see column 7 lines 53-56.

Art Unit: 3683

Re-claim 10, see figure 2.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luckevich et al.

Re-claims 6 and 7, Luckevich et al. teaches the predetermined time frame as 1 second and not 300 msec. It would have been obvious to one of ordinary skill in the art as a matter of design choice to have reduced the time frame to 300 msec., since the applicant has not disclosed that having the predetermined time set at 300 msec. solves any stated problem or serves any particular purpose and it appears that the system of Luckevich et al. would have performed equally well with the predetermined time set at 300 msec. The reduced time would have allowed for quicker equalization of the cylinder pressures with the master cylinder.

Re-claim 8, Luckevich et al. teaches the predetermined wheel speed as being 2 km/h. It would have been obvious to one of ordinary skill in the art as a matter of design choice to have set the predetermined wheel speed at 2 km/h, since the applicant has not disclosed that having the predetermined wheel speed set at 2 km/h solves any stated problem or serves any particular purpose and it appears that the system of Luckevich et al. would have performed equally well with the predetermined wheel speed set at 2 km/h.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hara et al.

Art Unit: 3683

Hara et al. teaches the predetermined wheel speed set at 6 km/h. and not at 2 km/h. It would have been obvious to one of ordinary skill in the art as a matter of design choice to have reduced the predetermined wheel speed to 2 km/h, since the applicant has not disclosed that having the predetermined wheel speed set at 2 km/h solves any stated problem or serves any particular purpose and it appears that the system of Hara et al. would have performed equally well with the predetermined wheel speed set at 2 km/h.

8. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luckevich et al. or Hara et al. in view of US 6,030,056 to Sawada et al.

Luckevich et al. and Hara et al. fail to specifically teach terminating the brake force distribution at a swing back time. Sawada et al. teach a system for terminating brake force distribution at a swing back time, which is the period immediately before the vehicle stops. This would seem to coincide with the period immediately after the vehicle speed falls below the low speed limit, at which time the brake force distribution is terminated. Thus it would seem the swing back time is the time just prior to a complete stop. Therefore it would have been obvious to one of ordinary skill in the art to have provided either Luckevich et al. or Hara et al. with a brake force terminating procedure coinciding with the swing back time as taught by Sawada et al., thus preventing any discomfort for the passengers in the vehicle by preventing swing back.

#### ***Response to Arguments***

9. The declaration under 37 CFR 1.132 filed March 31, 2006 is insufficient to overcome the rejection of claims 1-13 based upon Luckevich et al., Hara et al. and Sawada et al. as set forth in the last Office action because: with regards to Luckevich et al., it appears the declaration specifically addresses the intended invention of Luckevich et al. which is directed to a delay

Art Unit: 3683

function. However, the rejection is based upon the disclosure in Luckevich et al. of a prior art apparatus briefly discussed in column 5 lines 65-67 to column 6 lines 1-2. Wherein the prior art apparatus appears to describe the instant invention. Specifically it is stated that the rear wheel brake pressure is increased immediately after the vehicle speed falls below a predetermined value or low speed limit. This appears to mimic the instant invention wherein the rear wheel brake pressure is increased as the vehicle speed falls below a low speed limit  $V_0$  at a time  $t_2$ . The declaration states "at a time  $t_2$ , the frontward force applied to a vehicle is released by increasing the brake fluid pressure on the rear wheel side as shown by the dotted line." As such it stands to reason that as the rear wheel brake pressure is increased in the prior art apparatus described by Luckevich et al., the frontward force applied to the vehicle will be released. The remaining description clearly states the termination of the brake force distribution prior to the stop of the vehicle, since the brake force distribution is terminated at a low speed and not a zero speed.

With regards to Hara et al., again the declaration appears to address a rejection not made by the examiner. As best understood by the examiner only one of the conditions disclosed by Hara et al. in column 7 need be present for the termination process to begin. As such condition 4 appears to describe a situation similar to the prior art apparatus described by Luckevich et al., and the instant invention disclosed by the applicant. In particular the brake force distribution is terminated at a low vehicle speed, at which time the rear wheel brake pressure will be increased. This will result in a release of the frontward force applied to the vehicle as in the instant invention. As such the control unit is interpreted as finishing the brake force distribution control

Art Unit: 3683

as the vehicle comes to a stop and after the frontward force applied to the vehicle is released and prior to the stop of the vehicle.

10. Applicant's arguments filed March 31, 2006 have been fully considered but they are not persuasive. As stated above it appears the arguments address the specific invention of Luckevich et al. that is directed to a delay function. However, the examiner is not relying upon the invention of Luckevich et al. but rather the discussion surrounding a prior art apparatus in Luckevich et al., see column 5 lines 65-67 to column 6 lines 1-2. This brief discussion states that a brake force distribution control is terminated as the vehicle speed falls below a low speed limit. As such it stands to reason that as the rear wheel brake pressure increases a frontward force applied to the vehicle will be released, since an equalization in brake pressure between the front and rear wheels will occur. This appears to be consistent with instant figure 2, wherein the frontward force applied to the vehicle is released as the rear wheel brake pressure is increased to a level substantially equal to the front wheel brake pressure.

With regards to Hara et al., the rejection is based upon only one condition being present for the termination process to begin. That situation is viewed as condition 4 disclosed in column 7. The termination process begins after the vehicle speed falls below a low speed limit, much like the instant invention. Hara et al. disclose that only one of the conditions need be present for the termination process to begin, see column 7 line 57. As such it is the opinion of the examiner that Hara et al. does disclose a termination process that anticipates at least claims 1 and 13.

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



Art Unit: 3683

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is 571-272-7128. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan, can be reached at 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-6584.

**THOMAS J. WILLIAMS**  
**PRIMARY EXAMINER**

TJW

June 6, 2006

*Thomas Williams*  
AU 3683  
Jun 6, 2006